

CLAIMS:

What is claimed is:

1. A method for treating animal bedding waste, comprising:
applying to an animal bedding material between about 0.25 and about 6 pounds of a composition per cubic yard of the animal bedding material, wherein the composition comprises at least 5 weight percent of carboxylic acids having from 12 to 22 carbon atoms.
2. The method of claim 1, wherein the carboxylic acids include one or more fatty acids selected from saturated fatty acids, unsaturated fatty acids, and combinations thereof.
3. The method of claim 2, wherein the fatty acids include at least one saturated fatty acid selected from stearic acid, palmitic acid and mixtures thereof.
4. The method of claim 2, wherein the fatty acids include at least one unsaturated fatty acid selected from oleic acid, linoleic acid and mixtures thereof;
5. The method of claim 2, wherein the one or more fatty acids include a combination of saturated and unsaturated fatty acids and the ratio of the saturated fatty acids to the unsaturated fatty acids is between 70:30 and 30:70 by weight.
6. The method of claim 5, wherein the saturated fatty acids include stearic acid and the unsaturated fatty acids include oleic acid.
7. The method of claim 5, further comprising at least 1 weight percent of an amine-substituted form of a fatty acid.

8. The method of claim 1, further comprising:
moistening the bedding with water.
9. The method of claim 1, wherein the composition is a powder.
10. The method of claim 1, wherein the composition forms pellets, powder, granules, or cakes.
11. The method of claim 5, wherein the saturated fatty acids consist essentially of stearic acid and the unsaturated fatty acids consist essentially of oleic acid, linoleic acid, or a combination thereof.
12. The method of claim 5, wherein the ratio of the one or more saturated fatty acids to the one or more unsaturated fatty acid is between about 60:40 and 40:60 by weight.
13. The method of claim 2, wherein the one or more fatty acids are solids at ambient temperatures.
14. The method of claim 5, wherein the one or more fatty acids are solids at ambient temperatures.
15. The method of claim 14, wherein the solids are in the form of pellets, powder, granules, or cakes.
16. The method of claim 1, wherein the animal bedding is selected from sawdust, wood chips, wood shavings, straw, and sand.
17. The method of claim 1, wherein the composition further comprises a source of molecular oxygen.

18. The method of claim 17, wherein the source of molecular oxygen is selected from calcium peroxide, hydrogen peroxide, urea hydrogen peroxide, sodium percarbonate, potassium peroxide, and magnesium peroxide.
19. The method of claim 12, wherein the step of applying the fatty acid composition to the bedding occurs without adding a separate source of nitrogen or phosphorous.
20. The method of claim 17, wherein the source of molecular oxygen comprises between about 1 and 20 percent by weight of the one or more fatty acids.
21. The method of claim 15, wherein between about 0.1 and about 2 weight percent of amorphous silica is mixed with the solids to prevent clumping of the material.
22. The method of claim 1, wherein the carboxylic acids have from 16 to 20 carbon atoms.
23. A bedding for animals, comprising:
a layer of a substrate selected from wood shavings, wood chips, wood pellets, sawdust, hay, sand, and combinations thereof;
a composition comprising one or more carboxylic acid contacting the substrate, wherein between about 0.025 and about 6 pounds of the composition is provided for each cubic yard of the substrate.
24. The bedding of claim 23, wherein the composition further comprises one or more nutrients selected from nitrogen, phosphorous, iron, potassium, and combinations thereof.
25. A method for treating animal bedding waste, comprising:
applying fatty acids having from 12 to 22 carbon atoms to an animal bedding material, wherein the fatty acids are applied in an amount that is effective to enhance remediation of animal waste within the bedding material.

26. The method of claim 25, wherein the amount is also effective to reduce odors from the animal bedding waste.
27. The method of claim 25, wherein the fatty acids have from 16 to 20 carbon atoms.
28. A method of poultry farming, comprising:
 applying an effective amount of a powder composition comprising at least 5 weight percent of carboxylic acids having from 12 to 22 carbon atoms to a layer of bedding material selected from wood shavings, wood chips, wood pellets, sawdust, hay, sand, and combinations thereof; and
 growing a batch of poultry on the bedding material for a period of at least five weeks, wherein the layer of bedding material receives manure and urine from the poultry at least periodically throughout the period.
29. The method of claim 28, wherein the step of applying an effective amount of a powder composition includes applying between about 0.025 and about 6 pounds of the powder composition per cubic yard of bedding material.
30. The method of claim 28, further comprising:
 moistening the animal bedding material.
31. The method of claim 28, further comprising:
 agitating the animal bedding material.
32. The method of claim 28, wherein the step of applying the composition includes mixing the composition with water and spraying the mixture over the bedding material.
33. The method of claim 28, further comprising:
 reapplying the powder composition to the bedding at least once during the period.

34. The method of claim 33, further comprising:
growing another batch of poultry on the same bedding material for a second period of at least five weeks.
35. The method of claim 28, further comprising:
removing the used bedding material.
36. The method of claim 28, characterized in that the avian performance is increased.
37. The method of claim 28, wherein the carboxylic acids include one or more fatty acids selected from saturated fatty acids, unsaturated fatty acids, and combinations thereof.
38. The method of claim 37, wherein the fatty acids include at least one saturated fatty acid selected from stearic acid, palmitic acid and mixtures thereof.
39. The method of claim 37, wherein the fatty acids include at least one unsaturated fatty acid selected from oleic acid, linoleic acid and mixtures thereof.
40. The method of claim 28, wherein the carboxylic acids have from 16 to 20 carbon atoms.
41. The method of claim 1, wherein between about 0.025 and about 2 pounds of the composition is applied for each cubic yard of the substrate every 1 to 3 weeks.
42. The method of claim 1, wherein each application of the composition includes between 0.025 and 0.6 pounds of carboxylic acids per cubic yard of substrate.